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ORIGINAL ARTICLES.

PREVENTION OF BLINDNESS FROM OPHTHALMIA NEONATORUM.*

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This is an age in which great movements are going forward for the betterment of the community. The individual is no longer satisfied with striving for the improvement of his own condition only, but endeavors to improve the condition of those about him.

There are at least two motives which bring about this condition, first a pure altruism, and second, a feeling that all mankind are inter-dependent, and that a calamity befalling one affects all of us more or less.

This was illustrated by the conduct of our country in its last war. It is illustrated by the "Social Settlement," the fight against tuberculosis, and the existence of this society.

In this movement medical questions are taking a very prominent position, and I have been requested to discuss one of them before you.

Education is the great demand of the hour, and undoubtedly education will go far to improve bad conditions.

In education on medical subjects we must bear in mind that "A little learning is a dangerous thing," and bearing this in mind, you have asked me to speak very plainly.

In the first place it is necessary to understand exactly what

*Read at the National Conference of Charities and Corrections, held in St. Louis, May 19th to 26th, 1910.

ophthalmia neonatorum is. Its exact meaning is inflammation of the eyes of the new born. It is not, however, applied to those inflammations of the eye-lids of young babies, where there is a little redness of the lids with scant secretion of matter, but to those cases where there is considerable swelling and redness of the lids, and a profuse discharge of pus, beginning a few days after the birth of the child.

In our own country, as far as statistics have been collected, it causes about one-fourth of all blindness. Our last census informs us that there are a little over 64,000 blind people in the United States; that is, there are about 16,000 blind from this cause in this country. Think what an army that is. These figures do not vary much from those of the census of 1890.

These are blind from birth; it is blindness for a lifetime.

This condition appeals to our sympathy. Think of it, as you enjoy the beauty about you, the glory of the sun and stars, the beauty of the landscape, "The pity of it."

Consider it on a lower plane. These lives are largely dependent, and instead of contributing to the wealth of the community they are, with few exceptions, a drain on its resources. But there is a brighter side to the picture. It is possible to reduce this ratio immensely. A method of caring for children's eyes at the time of birth, which was introduced into the Lying-in Hospital at Leipzig in 1880, reduced the percentage of this disease to the number of births, from a little over 9 per cent. to 0.2 per cent. Furthermore, by modern methods of treatment, where the disease has occurred, a very large percentage of such cases can be cured.

We wish to take an active part in diminishing the number of recruits for this vast army, so that each year its enrollment may grow less. We can accomplish this by educating the people so that they will demand proper care of the child's eyes at once if the disease develops.

That you may thoroughly understand the situation; that you may have that thorough knowledge which is not "a dangerous thing;" it seems to be best that I shou'd speak plainly as I would to a medical audience.

The disease is caused by a germ, developed in the vaginal canal of the mother, being introduced into the eyes, or more correctly speaking into the conjunctival sacs, of the child. This germ is generally the gonococcus, and the presence of the disease is usually considered proof positive of immorality on the part of one of the parents. The statement that their child has ophthalmia

neonatorum to parents having this idea, might start suspicions which would break up the happiness of a home.

Statistics go to prove that the accusing presence of the gonococcus is found in about 63 per cent. of ophthalmia neonatorum cases, the other 37 per cent being due to the less dangerous pneumococcus, staphylococcus, etc. Undoubtedly ophthalmia neonatorum caused by the gonococcus is more difficult to cure than when caused by one of the other germs.

The first prophylactic measure that we would suggest is that our boys and girls be educated that they must lead moral, clean lives from their youth up. That women should demand of their husbands not only that they are, but that they always have been moral men, and that men should demand the same thing of those whom they would make the mothers of their children.

This may seem Utopian; but it is the ideal.

The second measure relates to the obstetrician. He should make microscopic examinations of the vaginal secretions of the mother, where that is possible, before the birth of the child, and if germs are found, likely to produce ophthalmia neonatorum, or the appearances are suspicious, he should use antiseptic douches which will render the vaginal canal aseptic.

As soon as the child is born he should carefully clean the face, hands and eyes of the child, and having done this drop into the conjunctival sacs some of the various antiseptic solutions. Probably the best plan is to follow the method introduced to the profession by Crédé in 1882, which consists of putting with a glass rod a drop of a 2 per cent. solution of silver nitrate on the center of each cornea, and allowing it to diffuse itself through the conjunctival sacs.

So much for the preventive measures. The medical profession are making strenuous efforts to have these precautions taken, where they may seem necessary. The modern accouchment is a model of asepticism, and our modern obstetricians take every precaution that neither mother nor child shall suffer from any lack of surgical cleanliness. The use of strong antiseptics, such as a 2 per cent. solution of silver nitrate, in the eyes causes considerable irritation, and if the obstetrician, from his knowledge of the character of the parents, and the physical condition of the mother, can exclude the presence of the gonococcus, mild antiseptic measures may be substituted.

The next point is to insure that no chances shall be taken where ophthalmia neonatorum has made its appearance. The large majority of such cases, when taken early, can be cured.

The fatal results, so far as sight is concerned, are generally the result of carelessness; dependence upon dropping boracic acid solution, or the more favorite remedy, with many people, the mother's breast milk, into the eyes of the child; the latter is nasty to say the least.

All regularly educated physicians are supposed to know how to take care of these cases. They are taught it in the medical college instruction in ophthalmology, though when specialists can be reached the general practitioner turns such cases over to them. The ophthalmic surgeons have given, and are giving, an immense amount of time and study to the best methods of curing this disease; they fully realize its danger.

Here legislation can come to our assistance, and it has been called upon. Missouri was among the earliest to take up the subject, and fifteen years ago passed a law for the prevention of blindness from this cause. The object of the legislation being to require that all such cases be reported at once to those who are competent to take care of them, to health officers, or where there are none to regularly qualified physicians.

The agitation for legislation began about seventeen years ago. A few physicians, especially a few oculists, taking an active part in it, till now it is sweeping over the country, and the popular press are printing articles about it which are eagerly read.

The following states have laws upon this subject: Connecticut, Idaho, Illinois, Maryland, Massachusetts, Michigan, Missouri, Ohio, Pennsylvania, Rhode Island, Texas and Wisconsin. Other states having no law, through their boards of health are taking active and efficient measures against the disease, as Maine and Minnesota, which require these cases to be reported to a health officer; New York and Louisiana, which furnish, without any charge, prophylactic preparations to physicians upon application; Kentucky, distributing an excellent circular on the subject to physicians, midwives and the public; Oregon, which makes it one of the reportable diseases; and the territory of Arizona, which prints on the back of every birth certificate warnings in regard to the disease, and a description of methods to prevent it. Many of the other states are trying to secure legislation, and the profession all over the country is becoming thoroughly awake to the necessity of making every effort to prevent blindness from this cause.

The prevention of blindness from ophthalmia neonatorum must be accomplished by education; legislation is ultimately a means to education.

I can probably best close my paper by reading to you the law of this state, as it now stands, and certain suggestions made by the Committee on Ophthalmia Neonatorum of the Missouri State Medical Association at the meeting of that Association held the 3rd of this month at Hannibal, Mo.

The law is as follows:

"Be it enacted by the General Assembly of the State of Missouri, as follows:

"Section 1. Should one or both lids of either eye or of both eyes of an infant become red or swollen, or should there be any discharge from either eye or from both eyes, at any time within three weeks after birth, it shall be the duty of the midwife, nurse, or other person having charge of said infant, at once, unless for good cause shown, to report the condition of said eyes to a legally qualified practitioner of medicine.

"Section 2. Every health officer shall furnish a copy of this Act to each and every one who is known to him to act as midwife or nurse, in the city or town for which such health officer is appointed, and the Secretary of State shall cause a sufficient number of copies of this Act to be printed, and shall supply the same to such health officers on application.

"Section 3. Any failure to comply with the provisions of this Act shall be a misdemeanor, and shall be punishable by a fine of not less than ten and not more than one hundred dollars, or by imprisonment not to exceed six months, or by both such fine and imprisonment.

"Section 4. All Acts and parts of Acts inconsistent with this Act are hereby repealed."

Passed and signed by Governor Stone in April, 1895.

The recommendations of the committee are as follows:

"That the report of cases of ophthalmia neonatorum be made to the registrar, the health officer, or a regular qualified physician.

"That the registrar or health officer be required to treat cases of ophthalmia neonatorum, if other competent service had not been secured, or if he could not secure it.

"That the Missouri State Board of Health supply to the physicians of the state upon application, one fluid drachm dark colored ampules filled with a 1 per cent. solution of silver nitrate, also a suitable dropper, to be used in their confinement cases as the conditions may indicate.

"That each birth certificate state whether or not precautions against ophthalmia neonatorum had been taken.

"That on the back of each birth certificate, the following or something similar be printed:

" 'Ophthalmia neonatorum causes about one-fourth of all blindness, and is usually caused by infection of the child's eyes by the vaginal secretions of the mother.

" 'To prevent it, cleanse the eye-lids, face and hands of the child thoroughly, and drop into its eyes two or three drops of a one per cent. (or five grains to the ounce) solution of silver nitrate, as soon as possible after the birth of the child. If there is special reason to suspect gonorrhœal infection, an hour later wash the eyes out with a five grain to the ounce boracic acid solution and repeat the silver nitrate treatment.'

"There is special legislation on this subject providing a penalty for negligence."

A CASE OF CYSTIC ADENOCARCINOMA OF THE LID.

By Adolf Alt, M.D.,
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The number of epithelial tumors of the lid which have not been simply classed as epitheliomata or carcinomata without further distinction, still being small, it seems worth while to report every case which offers such distinctions. This opportunity is chiefly offered by tumors which are still small and have as yet not produced much destruction of tissue.

A little tumor of this nature was sent to me by Dr. F. L. Henderson, of this city, with the following remarks:

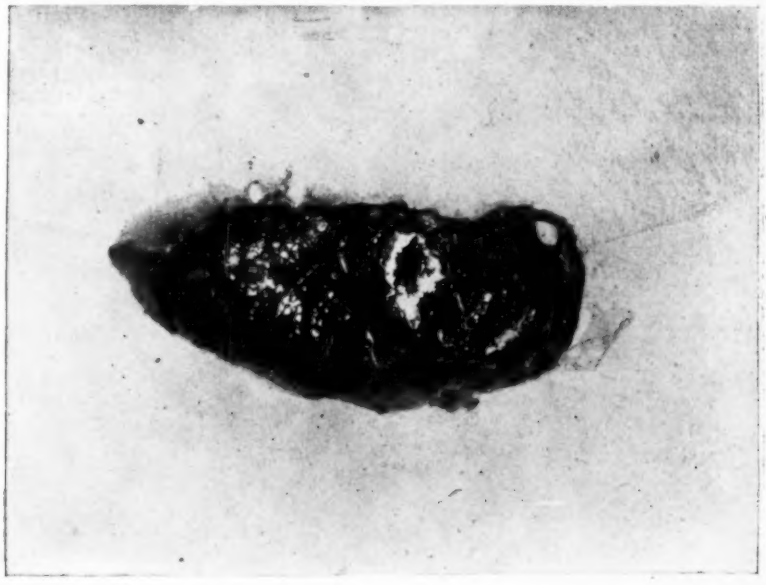

Fig. 1.

" J. J. G., farmer, age 30, robust in appearance and showing no evidence of any disease, was first seen June 18th, 1910. Six months before he had for the first time noticed a small growth at the inner canthus of the left eye. When the patient consulted me the tumor was about five-eighths of an inch long and one-fourth of an inch wide. It was located at the margin of the left upper lid, extending half way around the lacus lacrimalis. The surface of the tumor was elevated a little above the surrounding skin. It was slightly scaly and rough, and looked much like a common wart. The color was the same as that of the surround-

ing skin and no inflammation was visible. Nor was there any tenderness of the part. It was thoroughly excised on June 19th, 1910."

Figure 1 shows a section through the whole tumor. Upwards is the skin surface. The epithelium is continuous, but in several places it dips into the underlying tissue and seems to join with the tissue of the tumor proper. On the right are seen a number of hairs cut transversely, which, from the position of the tumor, are evidently not cilia.

The tumor itself is separated in most parts from the epithelium

FIG. 2.

by compressed connective tissue, showing round cell infiltration. Posteriorly it is surrounded by somewhat looser connective tissue more or less infiltrated with round cells.

Three more or less continuous septa divide the tumor tissue into about four lobules, which again are here and there subdivided by thinner and more irregular septa. These septa consist of bloodvessels and a small amount of connective tissue.

The tumor tissue is throughout epithelial in character (Fig. 2). The epithelial cells are in most of the parts arranged in a gland-like manner surrounding larger and smaller round and oval spaces which appear like enlarged secretory canals. Some of

these spaces are considerably larger than others and contain sebaceous material.

In other parts the epithelial cells form solid masses from which cylindric projections grow into the neighboring tissue. (Fig. 3.)

The cells themselves are mostly flat epithelial cells, appearing more or less spindle shaped where they are pressed together. Around the pseudo-secretory ducts they are in many places more

FIG. 3.

cylindrical, thus producing a picture which reminds one of the rosettes seen in some gliomatous tumors.

From the cell arrangements found in this tumor, it appears correct to call it an adenocarcinoma cysticum. It seems also most likely that its origin was a sebaceous gland.

The tumor has as yet not produced any ulceration, yet in some other respects it closely resembles to Parsons' description of a rodent ulcer of the lid (see Fig 11, page 24 of Vol. I. Pathology of the Eye).

Thus far no recurrence of the tumor has taken place.

TWO INTERESTING CASES OF SUDDEN BILATERAL BLINDNESS AT AN ADVANCED AGE.*

By Professor W. Uhthoff,
BRESLAU, GERMANY.

I want to present two cases of sudden bilateral blindness due to peripheral, probably basal affection of the optic nerve, which according to my experience I must class as extraordinarily rare.

The first case is that of a woman, 71 years old, who had enjoyed perfect health and could do her work until she became blind. In August, 1909, she says she suffered from a transient articular rheumatism, but she did not have to stay in bed and could soon work again. She further states that seven weeks ago she suffered suddenly from headache, which disappeared after two weeks, and again she could go to her work in spite of this headache and her advanced age. Four weeks ago without any accompanying symptoms she suddenly became blind in both eyes; a "veil" came quite acutely before her eyes and since then she has remained totally blind. There is no light perception and no reaction of the pupils to light; the pupils are somewhat dilated and immoveable. The ophthalmoscope shows a distinct atrophic pallor of the papillæ with sharp contours. Some of the retinal arteries are very thin and of irregular width. In the right eye these changes are especially marked in the arterial trunks which go upwards from the papilla, while the lower trunk is still relatively wide and permeable. On pressure with the finger pulsation can be plainly seen in this lower arterial trunk, while in the upper considerably contracted arterial branches pulsation can hardly be demonstrated. The retinal arteries in the other eye behave much in the same way, except that here the upper retinal arterial trunk is relatively free, while the lower ones are considerably contracted. In accordance with this the wider upper arterial trunk pulsates plainly on pressure with the finger, while in the lower a pulsation can hardly be recognized.

There are in both eyes undoubted pathological changes in certain arterial branches, but they are not of such a character as to explain the bilateral complete amaurosis.

The general condition of the patient is absolutely good. There are no cerebral disturbances, and a careful neurological examination (Professor Mann) could not reveal any symptoms of an intracranial focal disease. There is neither sugar nor albumen

*Patients demonstrated on the clinical evening of the medical session of the Silesian Society for Home Culture.—*Berlin Kl. Wochenschrift,* June 27th, 1910.

in the urine, no sign of former syphilis, and the sero-diagnostic examination of the blood is negative. The examination reveals no pathological changes except arteriosclerosis.

Under these circumstances we have to look upon this sudden, continuous, bilateral blindness as a peripheral one situated in the trunks of the optic nerves; yet a thrombosis of the retinal arteries alone could in my opinion not be the cause of the total blindness, since some of the branches of the retinal arteries are relatively free, aside from the fact that a simultaneous sudden thrombotic plugging of both retinal arteries would have to be considered.

I think the same is the case with a possible bilateral thrombosis of the trunk of the arteria ophthalmica in the posterior part of the orbit. It is not even said that the plugging of the trunk of the ophthalmic artery must lead to blindness of the eye. Based on my own examinations of cases of thrombosis of the carotid and shutting off of the entrance into the ophthalmic artery, I believe that this condition may occasionally cause total blindness of the eye on that side; yet I possess, also, specimens of a case in which in spite of the thrombosis of the carotid reaching beyond the branching off of the ophthalmica, the eye remained seeing, and the orbital branches of the ophthalmica were not thrombosed. Conditions seem to vary in individuals, according to the anatomically more or less numerous anastomoses of the orbital branches of the ophthalmic artery with the facial ones of the internal maxillary artery. It seems to me, that we can in this case absolutely exclude an unilateral or bilateral thrombosis of the internal carotid, since there are no cerebral symptoms present.

In the same way, I think, a bilateral affection of the occipital lobe in the sense of a bilateral hemianopsia must be excluded, on account of the positive ophthalmoscopic findings and absence of all symptoms pointing to an occipital disease, as hallucinations, disturbances in orientation, loss of optical memory pictures, etc.

Further, pathological condition which from experience may lead to unilateral or bilateral blindness with the picture of peripheral diseases of the optic nerves, are also wanting. Anomalies of menstruation, gravidity and lactation are naturally out of consideration at the age of 71. No acute loss of blood preceded the blindness. Diseases of the nervous system which occasionally can produce high grade disturbances of vision (multiple sclerosis, myelitis, cerebral lues, cerebral tumor, hydrocephalus, etc.) I think, must certainly be excluded, as well as every purely functional blindness (hysteria), intoxications (lead, methyl alkohol,

quinine). There is nothing pointing to an autointoxication or cancer cachexia, etc. No injury to the skull has gone before.

It seems to me, the most probable explanation of the sudden blindness in our case is a basal hæmorrhage from one of the cerebral arteries, perhaps the rupturing of a small aneurysm, due to the arteriosclerosis, with entrance of blood into the sheaths of the optic nerve. Although it is strange that under such conditions grave cerebral symptoms are now wanting and have not occurred previously (aside from the headache), I still think such a pathogenesis possible and cannot give a better explanation. It may, also, happen that the hæmorrhage from an aneurysm at first remains encapsulated in the neighborhood of the aneurysm without spreading diffusely over the base of the brain and thus compressing the optic nerves or the chiasm. The proof for such a possibility I find in the oral communication of Professor O. Foerster, who has observed such a condition at the post mortem examination of a case of sudden blindness. It seems improbable to me that, with the incomplete thrombotic and sclerotic conditions of the retinal arteries in both eyes, such a bilateral continuous blindness could have occurred in our case, although in cerebral pathology occasionally pathological alterations and symptoms of loss of function have been found, especially in the area of the cerebral cortex, where at the post mortem examination an arteriosclerosis of the particular afferent cerebral arteries could be recognized, but no complete thrombotic closure (Schroeder, Alzheimer, Bonhoeffer, etc.)

Hæmorrhages from basal aneurysms have been observed somewhat frequently (Bellamy, MacKenzie, Samt, Fuerstner, etc.), but visual disturbances are not mentioned in every case. In Bellamy's case there was an optic neuritis.

The cerebrospinal fluid, extracted by lumbar puncture, was clear and contained no trace of blood pigment, yet this point can hardly be used against the diagnosis of a former (5 weeks) basal hæmorrhage.

The second case, which I want to present, is that of a railroad laborer, K. K., 59 years old, who having previously been perfectly well, had in the beginning of March, 1910, a sudden attack of "trembling," followed by vomiting. The day following he had still the sensation of great weakness, and on that day suddenly "a veil" came over both eyes, so that he could discern only between light and dark. He was almost totally blind, although up to this time he had, according to his statement, seen perfectly well. Since the conditions did not improve, he went three days later

to the Silesian Eye Hospital, where the diagnosis of neuritic atrophy of the optic nerves was made and a cure with iodide of potassium was instituted. This produced a gradual improvement and the patient was discharged with iodide of potassium. Soon after, however, his condition became again worse and almost total blindness resulted. Since no improvement took place he entered the University Eye Clinic on May 2d, 1910.

When he was received, the following was found: On both sides pronounced atrophy of the optic nerves. The papillæ were white with an admixture of green; there were slight irregularities in the pigmentation in the neighborhood of the papillæ; the papillæ were almost sharply defined. The retinal vessels, in this case, also, are considerably contracted and of irregular caliber. In the right eye the changes concerned particularly the arterial trunks running upwards, while the lower ones had a relatively normal diameter; the latter pulsated well on pressure, while the upper contracted branches showed only a weak pulsation. In the left eye the conditions of the retinal vessels were exactly the same; here, too, the upper branches were much contracted and of irregular caliber, while the lower ones were relatively normal and pulsated well on pressure, the upper ones hardly showed any pulsation. From this picture the diagnosis of neuritic atrophy with partly well pronounced sclerotic changes in the retinal blood-vessels had to be made. The visual field is almost totally obliterated in both eyes, only a small round part, about 8 degrees in diameter, somewhat eccentrically from the point of fixation is still preserved. Colors cannot be distinguished; fingers are counted at 1 m. The patient's behavior is that of a totally blind man, very helpless as to orientation. The minimum of vision in the small eccentric field varies considerably, so that for a time the patient sometimes sees almost nothing.

At this time the patient is perfectly free from cerebral symptoms, and repeated careful neurological examinations (Professor Mann) have not demonstrated any focal lesion. In the same manner, the internal examination in the medical clinic has revealed no organic disease except general arteriosclerosis and a small amount of albumen and somewhat numerous hyaline and granular cylinders in the urine (probably arteriosclerotic nephritis). The accessory sinuses are normal. There is no headache, no dizziness, etc. The main symptom is the high grade visual disturbance, which in spite of all treatment did not improve during the further observation of the case. A serological examination of the blood was negative.

According to the history of the case, there is probably no doubt that before the sudden high grade visual disturbance there was in both eyes a pathological change in the optic nerves in the sense of a neuritic atrophy, although the patient insists that before the sudden blindness he was well and saw perfectly well. From the remaining small visual fields we must look upon the visual disturbance as due to a disease of the trunks of the optic nerves in front of the chiasm. In my opinion it is not permissible on account of the ophthalmoscopic picture to explain the visual disturbance solely by direct alterations of the retinal arteries in the sense of thrombotic or sclerosing changes. We must, in this case, also, assume a direct lesion of the intracranial optic nerve trunks. All of the possibilities considered in the first case (multiple sclerosis, myelitis, cerebral lues, acute loss of blood, intoxications, affections of the occipital lobe, etc.) are also wanting here. As the most probable explanation, I should like to assume again a basal hæmorrhage, perhaps, from a preexisting basal aneurysm, which previously already had damaged the optic nerves. Perhaps, we may, also, think of a basal tumor in the region of the hypophysis, into which a hæmorrhage may have taken place. Just in such cases of tumors of the hypophysis such a sudden peripheral blindness or high grade amblyopia have been repeatedly observed (Bailey, Woolcombe, etc.). I, too, have had occasion in two cases of tumors of the hypophysis to observe the same; in the first of my cases a transient blindness was followed even by an improvement which lasted for years till the patient died. The post mortem examination revealed a cystadenoma of the hypophysis. Lumbar puncture did not demonstrate any real pathological condition of the cerebrospinal fluid.

THE DISINFECTION OF THE SKIN WITH TINCTURE OF IODINE BEFORE OPERATIONS ON THE EYE.*

By H. Segelken, M.D.,

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(Translated by Adolf Alt, M.D.)

In the October number of 1908 of the *Zentralblatt fuer Chirurgie*, A. Grossich, surgeon to the City Hospital at Fiume, published a preliminary communication, translated from the Italian, on a new method of sterilizing the skin in operations.

He reported that formerly he had brushed the ordinary tincture of iodine on the site of the incision after a previous cleansing *lege artis*. When at some time an injured patient presented himself with a broad open wound, he brushed the tincture without previous washing, directly on the skin surrounding the opening of the wound, sutured the wound, brushed the tincture again on the sutures and put a bandage over it. It healed *per primam intentionem*. He has since treated a series of injuries in the same manner and all of them healed per primam without a sign of redness, swelling, pus or elevation of temperature. This was the constant result, provided the wounds did not show signs of a previous infection.

Grossich then applied the same method in operations with the same good results. The chief point is, that the skin must not first be washed with soap and water, else the penetration of the tincture into the superficial layers of the skin becomes more difficult and its disinfecting power is diminished. When soap and water are applied the cells of the epidermis swell up and close the intercellular spaces, or they are filled with soap solution, so that the tincture cannot destroy or at least weaken the germs which lie in the interstices.

With this method of sterilization he operated on hernia, tumors of the neck, sarcoma of the mamma, amputated extremities and made laparotomies. From his experience he came to the conclusion that tincture of iodine sterilizes the skin better than anything else and takes away the danger of infection from the operation. It never showed any noxious influence even when one-third of the surface of the body was covered with it. Sometimes the skin exfoliated, but the wound lips healed with an almost invisible scar.

Koenig was the first to take up this method and had good results in injuries, and in small and large operative interferences

*Klin. Monatsbl. f. Augenhlk., July, 1910, p. 113.

when using the common alkoholic tincture of iodine. According to his opinion, the tincture hardens the skin through its alkohol and fixes the bacteria, which are then still further impeded in their development by the iodine. Usually the tincture causes some irritation and hyperæmia of the skin; however, under certain circumstances this may be very desirable since it aids the nutrition of the wound lips. Only certain individuals and certain parts of the body, like the perinæum and scrotum, react at times with an exzema, especially if by bathing and shaving the superficial epithelial layers had been previously lost. Therefore the unbathed and unwashed skin is best for the disinfection with tincture of iodine.

As the last International Medical Congress at Budapest, in 1909, Grossich again stated that his method according to the opinions, expressions and reports of other surgeons was proven to produce a sure disinfection of the skin.

Especially the French operators, Walther and Tourraine, who proved by experiments on guinea pigs that tincture of iodine kills bacteria, have highly praised this method, in which, as something new, the washing and cleansing of the skin is omitted. If other Frenchmen, like Pierre Delbet, call such a procedure a puerile one, Grossich answers to this that Maydel, of the Vienna Clinic of Albert already had pointed to tincture of iodine as an agent which might increase the chances of a *prima intentio*. Thus far Grossich has applied his method in 700 cases of injuries and in 500 medium and major operations, which all healed in a short time with an almost invisible linear scar. The tincture of iodine, as has been stated before, does not injure the patient; once in a while in a scrofulous patient a slight irritation may occur, which however, does not retard the healing. Grossich does not bandage any more, but brushes the skin sutures lightly every day with the tincture till the scar is formed. Contrary to all bacteriological and microscopical examinations, Grossich, based on his clinical material, concludes that the sterilization is most complete and certain if the skin has not been washed before applying the tincture of iodine.

Unger, too, confirms the advantages of this method, which he has tried in 25 cases of laparotomies and about 50 minor operations. Unger mentions that Giubé (*Presse méd.* 42, 1909) warns against the use of the tincture on mucous membranes. Yet, dentists use it on the mucous membranes of the mouth, and Chevrier (*Gaz. des hopit.*) disinfects the vagina with it without bad results. According to Unger, no satisfactory explanation

of the action of the tincture of iodine has as yet been advanced, but he looks upon its use as a step forward.

Federman, also, considers the iodinization as the best method we possess at present. It may here be mentioned that it has been used in Brazil for some years.

In the experimental biological department of Orth's Institute, Bickel has been using tincture of iodine for the disinfection of the operative field in animals for a prolonged time with great satisfaction.

Schindler prefers to apply the tincture twice in all operations which demand external disinfection.

According to Brewitt, the iodinization of the skin has proven its usefulness at the sick bed to the highest degree, through the experiences which he collected in an unbroken series of 500 operations. The brushing with iodine is to him a method which answers best the surgical demand of *tuto, cito, et jucunde* in every particular and which is so simple and so sure that it should be used more and more in practice as well as in the operating room.

Nast-Kolb once observed an exzema with vesicle formation due to the tincture, but otherwise recommends the method as saving time and as being both pleasant and effective. But he thinks it necessary to call attention to the fact that when suturing the skin the needles pierce it with difficulty since the tincture of iodine tans the skin intensively. When local anæsthesia is in place, it must be, therefore, applied before the tincture.

Kutscher studied the disinfecting action of the tincture on the bacteria of the skin. He infected rabbits with virulent anthrax spores and then brushed the place, when dry, twice, at an interval of 15 minutes, with the officinal (10 per cent.) tincture. Ten minutes after the second application a small piece was cut out of the iodinized skin with aseptic precautions and inoculated into white mice. After two or three days three of the mice died of anthrax, one was sick, but recovered. The anthrax spores had, therefore, not been destroyed. Cultures on agar, also, were positive. Experiments with staphylococcus pyogenes aureus and bacillus pyocyaneus, too, showed that these bacteria were not destroyed with certainty by the tincture. Yet, microörganisms situated on the surface of the skin were damaged by the drying effect of the tincture. Thus, according to Kutscher, the tincture possesses no great bactericidal power, although, according to the older observers, Benz and R. Koch, it is certain that iodine in a watery solution is of great antiseptic effect.

I may mention a further approval of the method which dates

from the most recent time. Brunner, in his paper on the present technique in the treatment of wounds, read at Budapest, stated that the painting with tincture of iodine instead of washing for the disinfection of the neighborhood of the wound has already gained a great many friends.

Since after this summary résumé of the clinical and experimental trials of tincture of iodine several operators had observed that its application was contraindicated on thin parts of the skin, as the face, neck, scrotum and perinæum, on account of severe irritation and the formation of exzema, we were *a priori* not certain whether and to what degree the skin of the lid would react in eye operations to the tincture of iodine. Practical experiments alone could clear up this point.

It happened accidentally that at the beginning of November, 1909, a young deaf mute man came under my care with glaucomatous symptoms in the right eye, which were due to the dislocation into the anterior chamber of a calcareous cataract. He had only quantitative light perception, therefore a possible damage which might be produced by the tincture of iodine seemed to be of little importance as far as regarded his vision.

On November 4th, 1909, before making a sub-conjunctival extraction, I painted the unwashed skin of the lids to an extent of 2 or 3 cm. beginning at the outer margin of the lid, with the common tincture of iodine, until the skin was of a light to dark brown color. The skin very soon assumed a dry appearance. After the operation I put on a sterile bandage. The next day the skin of the lid was slightly swollen and œdematous, yet the following day after a slight exfoliation of the superficial epidermal layers, it was of normal appearance. The wound healed *per primam.*

At present I have made over 75 operations in which this form of sterilization of the skin of the lids was used and in which no disturbance occurred in the healing of the wound, and no other complications developed except an erythema or a more or less pronounced œdema of the skin of the lids in patients disposed to it, passing conditions which in no way interfered with the clinical success.

The patients sometimes complain of a prickling, tickling or burning sensation in the iodinized part. Usually a diffuse redness, a simple erythema follows the application, which is, however, gone the following day. Sometimes a slight dermatitis appears (reactive inflammation) with consequent lamellar desquamation of the epidemis.

Among my cases are: 17 extractions of cataract, 7 enucleations, 15 extirpations of the lacrimal sac, 5 glaucoma iridectomies, 1 exenteration, 11 discissions, 1 preparatory iridectomy, 4 tenotomies, 1 pterygium operation, 2 maturing discissions in zonular cataract, 1 symblepharon operation, 3 linear extractions, 1 intermus advancement, 1 myopia discission, 2 iridotomies, 1 optical iridectomy, 1 plastic operation on the conjunctiva, 1 palliative trepanation of the skull.

Aside from these, I have applied the tincture in five cases of recent corneo-scleral wounds. In one case of discission I applied the tincture to the point of puncture on the scleral conjunctiva without previous cleansing of the conjunctival sac with physiological salt solution.

Finally, I may mention that I have always been satisfied with one brushing, and that in the last 10 cases I have been satisfied with diluted tincture of iodine (5 per cent.) which seems to be strong enough for the tender skin of the lid, in order to fix the pathogenic microbes at their site and to prevent them from entering the wound.

The clinical experiences are of main importance in judging the value of the method. In experiments they have been entirely in favor of iodinization, which, moreover, has with many surgeons found a rarely uniform acceptance. At least, not one of the observers has, as far as my knowledge of literature goes, in his criticism of the method given it a strictly negative vote.

Therefore, we have in the tincture of iodine an agent which in eye operations, too, simplifies disinfection greatly and evidently perfects it.

I recommend this new method of disinfecting to as extensive a study as possible.

LITERATURE.

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4. Federman. Berl. Kl. Woch., Nos. 3, 5, 7.
5. Brewitt. Muench. med. Woch., 1910, No. 6.
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8. Aladr Bogdan-Balassa Goarmat. Zentralbl. f. Chir., 1910, No. 3.
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MEDICAL SOCIETIES.

THE OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Friday, July 8th, 1910.

The President, Dr. G. A. Berry, in the Chair.

CASES.

Mr. E. A. Dorrell showed a case of "Unusual Form of Anterior Cortical Cataract" in the left eye of a man æt. 47.

Both eyes showed conjunctival and corneal scars, and the right eye had suffered injury. The left eye shows atrophic iris pierced by small pin holes, and a minute anterior synechia. The lens hows above the centre a clear grey fan-shaped opacity of ten rays lying in different planes, each ray is denser at the periphery than centrically. There are opacities in the vitreous. V=6/12.

Mr. Arnold Lawson showed a case of "Unusual variety of macular hæmorrhage, with anastomosis between the retinal and choroidal circulation."

The defect in the right eye was found out accidentally, and there is no knowledge of the cause of the hæmorrhage. Formerly he had frequent epistaxis. Vision is reduced to fingers.

The macula is mapped out by a trellis-like pattern of minute dark hæmorrhages, this is surrounded first by a ring of whitish-yellow spots and secondly by a dark circle, and thirdly by an outermost ring of buff tint which fades into the normal choroid. Cholesterin crystals are seen in retina and vitreous. There is also a curious anastomosis between an anomalous retinal vein and the choroidal or extra-ocular circulation.

Mr. Arnold Lawson showed a case of alternating convergent strabismus in which the patient habitually employs the apparently squinting eye for fixation whenever the object is to one or other side of the median line.

Mr. Inglis Taylor showed a case of Tubercular Iritis.

A youth of 16 years was seen in May last with K.P. and ciliary exudate formed on the iris which later on became well defined tubercles. Enlarged glands were found in axilla and over both clavicles but no lung trouble.

Mr. H. L. Eason showed a case of massive exudate of the choroid (? subretinal).

PAPERS.

Dr. Geo. Mackay (Edinburgh) read a note on "A Case of Interfascicular Endothelioma of the Choroid situated at the optic disc," of which the pathological report was made by Mr. Treacher Collins.

A man, æt. 60, of full habit, suffered attacks of temporary faintness, and later found a defect in his right eye. Direct vision was fair, but the nasal field was lost. The disc of the eye showed a grey mass of tumor substance with fine inherent vascularisation; the border was round and clear cut towards the macula, but sloped gradually on the nasal side. The mass appeared to project forward 2 mm. The tension of the eye was slightly raised. The case was watched three months, then excision was decided upon; the nerve was cut far back. On examination it was found that the tumor mass extended backwards into the nerve 7 or 8 mm., and an isolated excrescence was noticed on the sheath at a distance of 14 mm.

Mr. Treacher Collins examined the eye and gave it as his opinion that the case was one of malignant new growth, an interfasicular endothelioma of the choroid.

Mr. J. B. Lawford. Further report on a case of Optic Atrophy and Oculo-motor Palsy: New Growth in the Region of the Pituitary Fossa. Shown at the meeting of the Society on February 10th, 1910.

The patient died May 7th, 1910. There was increase of proptosis and a mass of new growth bulged between the eyeball and the right nasal bone. Other tumors appear in the left temporal fossa, the roof of the mouth, and the jaw movements were restricted. The right 5th nerve was paralyzed and the right cornea sloughed. Headache, delirium, paralysis of the abdominal viscera, and at last coma ushered in death. Post mortem a large tumor was found in the base of the skull beneath the dura. It filled the sella turcica, ethmoid bone, the right middle fossa, and half the left; it projected from the basi-sphenoid. The cranial nerves and sinuses were stretched by it. The growth was glistening, rather firm, and of even texture. Mr. Shattock (Pathological Curator of the Royal College of Surgeons) reported it to be a rapidly growing chondroma.

At the Annual General Meeting held at the close of the ordinary meeting the officers for the ensuing year nominated by the Council were elected unanimously; the report of the Council was read and the accounts were passed.

A motion to amend the rule of the Society on the eligibility of candidates for membership, so as to permit of the election of foreign ophthalmologists was carried unanimously.

N. BISHOP HARMAN.

THE AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

Program of the Fifteenth Annual Meeting, Cincinnati, Ohio, September 19, 20, 21, 1910. Headquarters: Hotel Sinton.

Opening of the Scientific Sessions, Monday, September 19th, 10:30 a.m.

President's Address—Dr. Wendell Reber, Philadelphia, Pa.

PAPERS.

1. General Anæsthesia in the Specialties—Dr. Myron Metzenbaum, Cleveland, Ohio.
2. Erysipelas as a Complication of Mastoid Disease—Dr. J. A. Stucky, Lexington, Ky.
3. Parinaud's Conjunctivitis—Dr. Geo. F. Keiper, Lafayette, Ind.

Joint Session—Monday, 2:30 p.m.

Anniversary Lecture of the American Academy of Ophthalmology and Oto-Laryngology—Mr. Sidney Stephenson, London, England (by invitation), On Sloughing Cornea in Infants.

Symposium: Intracranial Diseases in Relation to the Eye, Ear, Nose and Throat.

(a) Hemianopsias and Their Localizing Value in Case of Brain Tumor—Dr. Harvey Cushing, Baltimore, Md.

(b) Significance of Alterations in the Visual Fields as Related to Intracranial Disease in General Brain Tumor in Particular—Dr. Chas. Bordley, Baltimore, Md.

(c) Accessory Sinus Disease Presenting Ocular Symptoms That Might Also Lead to the Diagnosis of Intracranial Disease—Dr. R. D. Risley, Philadelphia, Pa.

(d) The Anatomic Relation of the Sphenoidal Sinus to the Orbit—Observations Based on 100 Specimens—Drs. L. M. Francis and J. A. Gibson, Buffalo, N. Y.

Joint Session—Tuesday, 9:30 a.m.

Symposium:—Continued.

(e) Some Remarks on Sinus Thrombosis with Particular Reference to the Diagnostic Value of Blood Cultures in

Otitic Disease—Dr. Seymour Oppenheimer, New York City.

(f) Symptoms of Temporo-Sphenoidal Abscess—Dr. L. W. Dean, Iowa City, Iowa.

(g) Some Eye Complications of Accessory Sinus Disease—Dr. Richard Hall Johnston, Baltimore, Md.

(h) A case of Otitic Brain Abscess with Rare Ocular Symptoms—Dr. C. Barck, St. Louis, Mo.

Tuesday, 2:30 p.m.

Clinics to be announced at the meeting and folders to be distributed.

Joint Session—Wednesday, 9:00 a.m.

Report of Council.
Report of Committees.
Unfinished Business.
Induction of newly elected Officers.

Ophthalmic Session—Wednesday, 9:30 a.m.

Demonstration of Instruments and Accessories to be announced at the meeting.

1. Cataract Questions: (a) Smith's Cataract Operation—Dr. D. W. Greene, Dayton, Ohio.
   (b) Lantern Demonstration of the Unmodified Smith Operation for Cataract—Dr. Derrick T. Vail, Cincinnati, Ohio.
   (c) Choice of Cataract Operation—Dr. W. A. Fisher, Chicago, Ill.
2. The Operative Management of Atypical Cataract—Juvenile and Traumatic—Dr. Percy H. Fridenberg, New York City.
3. An Experience of Fifty Cases with Congenital Cataract—Dr. J. E. Brown, Columbus, Ohio.
4. A Practical Note on the Use of Bifocal Lenses—Dr. H. B. Young, Burlington, Iowa.

Oto-Laryngologic Session—Wednesday, 9:30 a.m.

1. Vice-President's Address—Dr. Lorenzo Lockhard. (a) Demonstration of Instruments and Accessories—15 minutes. (To be announced at the meeting.)
2. The Present Status of Labyrinthine Surgery—Dr. S. J. Kopetzky, New York City.

3. Some of My Mishaps in Seventy-five Cases of Tracheo-Bronchoscopy and Œsophagoscopy—Dr. Secord H. Large, Cleveland, Ohio.
4. Autotoxic Colds—Sargent F. Snow, Syracuse, N. Y.
5. Cylindroma of the Nasal Cavities with Report of a Case—Dr. W. D. Black, St. Louis, Mo.
6. The Manifestation of Thyroid Disease in the Upper Respiratory Passages—Dr. B. R. Shurly, Detroit, Mich.

Ophthalmic Session—Wednesday, 2:30 p.m.

1. The Extractum Corporis Ciliaris in the Treatment of Sympathetic Ophthalmia with the Report of Two Cases—Dr. Edward B. Heckel, Pittsburg, Pa.
2. Injuries of the Ciliary Region—Dr. Dudley S. Reynolds, Louisville, Ky.
3. The Conjunctival Tuberculin Test—Herman Achard, Chicago, Ill. (By invitation.)
4. Progressive Primary Atrophy and Almost Complete Disappearince of the Left Iris—Dr. Casey A. Wood, Chicago.
5. The Relation of Trachoma Bodies to Trachoma—Dr. Hanford McKee, Montreal, Canada.
6. The Ætiology, Pathology and Treatment of Convergent Strabismus, Especially in Children—Dr. Linn Emerson, Orange, N. J.

Oto-Laryngologic Session—Wednesday, 2:30 p.m.

1. The Radiographic Study of the Comparative Anatomy of the Nasal Accessory Sinuses and the Mastoid Process of some of the Lower Animals—Illustrated by Lantern Slides—Dr. J. C. Beck, Chicago, Ill.
2. The Presentation of Some Lantern Slides Illustrating the Comparative Anatomy of the Nose—Dr. J. M. Ingersoll, Cleveland, Ohio.
3. Some Interesting Lesions of the Mouth—Illustrated by Autochrome Lantern Slides—Dr. T. E. Carmody, Denver, Colo.

3. Title to be Announced—Dr. Wolf Freudenthal.

ABSTRACTS FROM MEDICAL LITERATURE.

By J. F. Shoemaker, M.D.,

St. Louis, Mo.

SPONTANEOUS RUPTURE OF THE EYEBALL A PHENOMENON OF GLAUCOMA.

E. C. Ellett (*Jr. A. M. A.*, July 16, 1910) reports the case of a man, 68 years of age, in whom there occurred a spontaneous rupture of the left eyeball after he had retired at night. The patient had had an attack of uveitis in this eye three years previously, there being floating opacities in the vitreous, opaque lens striæ and some plastic deposits on the anterior capsule, with synechia. Glaucoma developed later and the vision was totally lost. The patient had pronounced evidences of having had syphilis and gave a history of specific infection. He had marked arteriosclerosis. For several days before the accident the eye had been slightly red and painful and, judging from the history he gave, there evidently was increased tension. He stated there had been no injury nor straining effort. The globe was enucleated three days later and sent for examination to Dr. Brown Pusey, who gave the following report:

"Macroscopically a section in the antero-posterior diameter shows a hernia of the ocular contents through the center of the cornea. The retina and chorioid are detached except at the nerve-head, and these tissues make up the mass of the hernia. The space between the sclera and the detached chorioid and retina is occupied by blood. The head of the nerve shows deep cupping.

"Microscopically the corneal tissue shows inflammatory changes of marked degree. The tissue is œdematous and there is a great increase of cellular elements. There is no necrotic material such as one would find in an ordinary ulcer. The tissue of the limbus region shows the same changes; the new cells here are mononuclear cells. The arteries of the limbus region have markedly thickened walls, and in one set of sections marked inflammatory changes are seen in the outer wall of a large vein (periphlebitis). The prolapsed tissue is made up of vitreous, iris, chorioid, and

retina, and all of them are œdematous and full of blood. There is little to be made out of a study of the iris, chorioid, and retina, except the fact that the iris and chorioid are the seat of a great increase of cellular elements, and the vessels show marked thickening of the walls.

"The striking changes found in the tissues are the changes in the cornea and the changes in the bloodvessel walls. These changes probably explain the bursting of the eyeball and the hernia of its contents."

The case interested Ellett sufficiently to prompt him to look up the literature on the subject and he found in all, twenty-two cases reported; one in 1879, one in 1881, and the others since 1899. He gives brief abstracts of the reports of these cases. All of the cases except one were subjects of chronic glaucoma; the hæmorrhage was from the chorioid vessels and the rupture of the ball in the cornea. There is a difference of opinion as to how spontaneous rupture in a chronic glaucomatous eye occurs. Some claim that the cornea ruptures first on account of some weakness in this tissue due to previous disease and hæmorrhage from the chorioidal vessels occurs after the rupture because of the suddently lowered tension; while others contend that the intraocular hæmorrhage occurs first and so increases the tension that the cornea ruptures as the result of this increased intraocular tension.

Ellett believes that the occurrence of this accident depends upon the existence of three conditions, viz.: glaucoma, vascular disease and probably an ulcerated or otherwise weakened cornea.

REPORT OF THE COMMITTEE FOR THE STUDY OF THE RELATION OF TUBERCULOSIS TO DISEASES OF THE EYE.

William H. Wilder, Chairman of the Committee (*Jr. A. M. A.*, July 2, 1910), reports the results of the committee's work during the past year. The study includes records of cases observed by the following members of the committee: George S. Derby, Charles Stedman Bull, Arnold Knapp, W. C. Posey, George E. de Schweinitz, Harry Friedenwald, L. W. Dean and W. H. Wilder. Difficulty is experienced in excluding syphilis, blood conditions, autointoxications and other conditions as ætiological factors of eye lesions, but the different tests employed by Koch, Wolff-Eisner, Pirquet and Calmette make the diagnosis of tuberculosis in some part of the body apparently an easy matter. While

a positive general reaction only shows that there is tuberculosis in some part of the body, if there be in addition to the general reaction from the subcutaneous injection of tuberculin a local reaction in the affected eye, it is quite presumptive that the ocular lesion is tubercular. Therefore those tests, together with careful physical examination of the patients and a study of their personal and family histories are of great importance in the study of this subject. Wilder does not agree with many ophthalmologists as to the danger of employing the Calmette test but believes it to be safe and advantageous if the test is begun with a small dose. He thinks it as important to know what strength dose may be used with safety in the conjunctiva as it is what dose may be given subcutaneously with safety. The committee reports on 144 cases studied which they classify as follows:

Blepharitis	3
Dacryocystitis	2
Follicular conjunctivitis	5
Phlyctenular disease of conjunctiva and cornea	47
Scrofulous pannus	4
Keratitis (deep and nodular)	12
Interstitial keratitis	18
Episcleritis	4
Scleritis	3
Sclero-keratitis	22
Chronic iritis	3
Chronic iridocyclitis	7
Uveitis	6
Chorioiditis	5
Chorioretinitis	3
Total	144

Of the three cases of blepharitis two showed positive general reaction to the subcutaneous test; in the third, while three v. Pirquet tests were negative, there were reasons to believe that the child was tuberculous.

One of the cases of dacryocystitis gave a marked reaction to the v. Pirquet test, while in the other case pulmonary examination and three v. Pirquet tests were negative.

Of five cases of follicular conjunctivitis v. Pirquet's test was positive in three and negative in two.

In the other diseases studied they summarize their findings as follows:

Phlyctenular Conjunctivitis and Keratitis.—Fifty-one cases of phlyctenular disease of the cornea or conjunctiva, or both: 47 at least showed distinct evidence of tuberculosis, either in a quiescent or an active form.

Interstitial Keratitis.—Only those cases were considered where syphilis could be reasonably excluded. Eighteen patients; 11 showed general reaction to subcutaneous test; 3 others showed positive v. Pirquet test. In the 4 who were negative to v. Pirquet, tuberculosis was thought to exist in 3 of them from clinical examination. Of the 11 who showed reaction to the subcutaneous test, 9 showed a local reaction in the affected eye, evidenced by increased ciliary injection or an aggravation of the conditions.

Keratitis.—Of 12 cases of nodular keratitis, 11 showed evidence of tuberculosis. In 5 pulmonary tuberculosis was demonstrated. In 3 tested subcutaneously there was general reaction, with local reaction in the affected eye.

Episcleritis.—Four cases, of which 1 showed evidence of pulmonary tuberculosis, 1 responded to subcutaneous test, 2 responded to v. Pirquet test.

Scleritis and Sclerokeratitis.—Twenty-five cases of scleritis and sclerokeratitis, in 8 of which physical examination showed signs of pulmonary tuberculosis. In 12, the subcutaneous test was made and was positive, and in 10 of these there was reaction in the affected eye, manifested by an increased redness or a distinct aggravation of the condition. In the 13 remaining cases all but one gave evidence of the existence of tuberculosis by a positive Pirquet reaction. In 9 cases it is noted that marked improvement followed the use of tuberculin.

Chronic Iritis.—Three cases of recurrent iritis, all of which gave evidence of existence of tuberculosis.

Chronic Iridocyclitis.—Seven cases of chronic iridocyclitis and anterior chorioiditis, in only one of which was there evidence of pulmonary tuberculosis. In 5 there was general reaction to tuberculin subcutaneously and in 3 of these slight reaction in affected eye.

Uveitis.—Six cases of general uveitis, with no physical signs of tuberculosis. Four cases gave positive reaction to subcutaneous test, with local reaction in affected eye in 3.

Chorioiditis and Chorioretinitis.—Six cases of chorioiditis, in 4 of which subcutaneous test gave a positive general reaction, with local reaction in the eye in 2. Two cases of retinitis or chorioretinitis, in which tuberculin tests were negative.

THE PREVENTION OF BLINDNESS.

F. Park Lewis (*Jr. A. M. A.*, July 23, 1910) emphasizes the importance of preventive medicine along this line, and states that it is a field to be cultivated especially by ophthalmologists. As yet no public movement exists for the purpose of solving the problem of the prevention of blindness. To prevent conditions which lead to blindness is vastly more important and effective than to direct our efforts toward relieving such conditions after they exist. Lewis calls attention to the fact that no authoritative definition of blindness has yet been accepted. The enumerators of the United States Bureau of the Census, in 1900, were instructed to note such persons as blind who, even with the aid of glasses, were unable to read a book. The Massachusetts Bureau of Statistics of Labor instructed its enumerators to consider such persons as blind who, "with the aid of glasses are yet unable to distinguish form or color, to count the fingers on the hand at a distance of one foot, or to read writing or ordinary print." Lewis thinks a fairer and better definition is that suggested by Dr. Lewis Stricker, who proposes to define blindness as of three degrees. "The first is total or absolute blindness in which the light sense is completely abolished. The second, which might be termed relative blindness, is that in which the vision with either eye, with proper corrective glasses adjusted, is so low that fingers can no longer be counted at one meter, or three feet, but movements of the hand or moving objects may still be discerned. The third, practical blindness, is that in which moving objects may still be discerned at three meters, or nine feet, but in which the field of vision has become so impaired, ... that no useful vision remains and the individual gets about with great difficulty. Only those are to be considered as blind who are hopelessly and incurably so."

On account of the fact that there is no accurate definition of blindness and also that the diagnosis of blindness has been made by incompetent persons, such statistics as we now have are of small value scientifically. Hence the collection of such statistics should be done by trained and experienced ophthalmologists. The data obtainable from schools and institutions for the blind and from public institutions devoted to the treatment of diseases of the eye are of very little value as the records have not been properly kept. The author thinks that the most useful and easily accessible source of data of this character would be daily records of ophthalmologists

In the prevention of blindness social service, supplemental to the medical and surgical care of the eyes, is of great value. Preventable industrial accidents and the prevention of hereditary blindness are discussed by Lewis who concludes his paper by emphasizing the need of better training in ophthalmology, as unfortunately many eyes are lost because those who assume to treat them are not properly trained, and suggesting the great importance of protecting the eyes of school children by providing for them properly lighted and ventilated school rooms and books that are properly printed.

THE FILTERING CICATRIX FOR CHRONIC GLAUCOMA.

WITH A REPORT OF CASES IN WHICH OPERATION WAS PERFORMED BY THE METHOD OF LAGRANGE.

Allen Greenwood (*Jr. A. M. A.*, July 16, 1910) refers to the different methods employed by ophthalmic surgeons to secure a filtering cicatrix by permitting a piece of the iris to remain in the corneal wound after doing an iridectomy for glaucoma. This procedure was recommended by some surgeons, and condemned by others as being dangerous, holding that infection and sympathetic disturbances were much more likely to occur where this was done. Lagrange having seen a fistulous communication between the anterior chamber and the subconjunctival space occur after cataract extractions where the incisions were placed far back and large conjunctival flaps made, reasoned that if such a condition could be brought about purposely in doing the operation of iridectomy for chronic glaucoma the chances of a permanent cure would be greatly increased. He therefore devised the operation which bears his name and which he calls sclerecto-iridectomy. Of this operation Greenwood says:

"Briefly, it consists in a sclerocorneal incision well into the angle of the anterior chamber, with the knife held, in cutting out, with the edge slightly backward so as to bevel the sclera and make a broad conjunctival flap. Then with the conjunctival flap pulled down over the cornea, a portion of the beveled edge of the sclera is cut off with curved scissors, the amount varying with the degree of plus tension, as experience shows that the greater the tension the less the amount necessary to remove. A good iridectomy is then made and the conjunctival flap replaced after all iris tissue has been freed from the angles of the incision. In regard to this latter point, Lagrange holds that his operation

has not been properly performed if any entanglement of iris tags occurs."

Lagrange further insists that the section should be made through the ligamentum pectinatum iridis, dividing the insertion of the ciliary muscle, so as to allow communication between the anterior chamber and the lymph spaces of the chorioid.

Reference is made by Greenwood to Thomson Henderson's well known views that the value of an iridectomy in glaucoma depends upon the cut iris surface which does not heal but constantly remains open and this filters off the aqueous fluid; and that a sclerocorneal filtering cicatrix is impossible, unless there is a fistulous opening, as the endothelial cells along the internal margin of the wound soon spread over the wound and thus shut it off from the anterior chamber. Abadie also disbelieves in the filtering cicatrix. The fact remains, however, that numerous observers have seen cicatrices, without macroscopic evidences of fistulization, that permitted the emptying of the aqueous into the subconjunctival spaces when pressure was made on the globe.

Greenwood has performed the Lagrange operation on a number of patients suffering with glaucoma and gives a report of two cases. He says in conclusion:

"From my reading coupled with my personal observation, I feel reasonably sure that the Lagrange operation, or one of its modifications, has come to stay because it is a distinct advance in our operative treatment of chronic glaucoma, in that it makes the effect of an iridectomy more marked at first, and more permanent later, thus keeping the vision existing at the time of operation much longer than can be hoped for from miotics, simple iridectomy, sclerotomy or cyclodialysis."

BOOK REVIEWS.

A Textbook on the Therapeutic Action of Light. By C. E. Rogers, M.D., with original illustrations. 1910. Published by the author.

This book is devoted chiefly to a new kind of light rays found by its author, and by him termed Rho rays, and a lamp which he has constructed for using these days in the treatment of diseases. According to his statement these rays "not only penetrate but pass entirely through the tissues, including the bones." They destroy germs in the tissues and pain is relieved by them in some cases more quickly than by morphine. From this introduction it is hardly astonishing that the Rho rays in the author's hands cure not only skin affections and cancers, but a very great variety of other diseases, including most of the diseases of the eye. Atrophy of the optic nerve, embolism of the central retinal artery and cataract yield to them as well as all other diseases. Rho rays in the right hands are evidently a true panacea for all ills mankind is heir to. The healing art will be a child's play when the author's Rho rays have come into universal use. We fail to comprehend why they have as yet not come into their own. Perhaps no other but the author's hands can apply them correctly.

Nursing in Diseases of the Eye, Ear, Nose and Throat. By the committee on nurses of the Manhattan Eye, Ear and Throat Hospital. 1910. Philadelphia and London: W. B. Saunders Co.

It is a difficult task to write a book for the average nurse who usually is lacking the necessary preliminary education, just as difficult as we find it when lecturing to nurses to confine ourselves to that which is necessary and can be fully understood by the average nurse. The authors of this text-book have recognized this difficulty and have succeeded in producing a book which seems to us to answer its purpose well.

An International System of Ophthalmic Practice. Edited by W. L. Pyle. Therapeutics. By A. Darier, Translated by S. Stephenson. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1910. Price $4.00.

The name of Darier and his work in ophthalmic therapeutics is too well known to require our recommendation. The same is the case with the translator. Whoever wants a complete treatise on ophthalmic therapeutics will welcome this volume, which will furnish him an excellent reference book. Alt.